

## CONTROLLED SURFACE-ASSOCIATED DELIVERY OF GENES AND OLIGONUCLEOTIDES

### ABSTRACT

A system and method for controlled gene delivery comprising condensed nucleic acids complexed with polylinkers, wherein the complexes are covalently and/or non-covalently bound to the surface of a substrate capable of supporting cell adhesion. The gene delivery system achieves temporal and spatial control of nucleic acid delivery to a target cell or cells through control of complex density on the surface of the support substrate, and reversibility of the attachment of the polylinker to the support substrate. The system and method of the invention can be used to create spatial patterns of gene expression, and in tissue engineering, high throughput screening, and gene therapy applications.